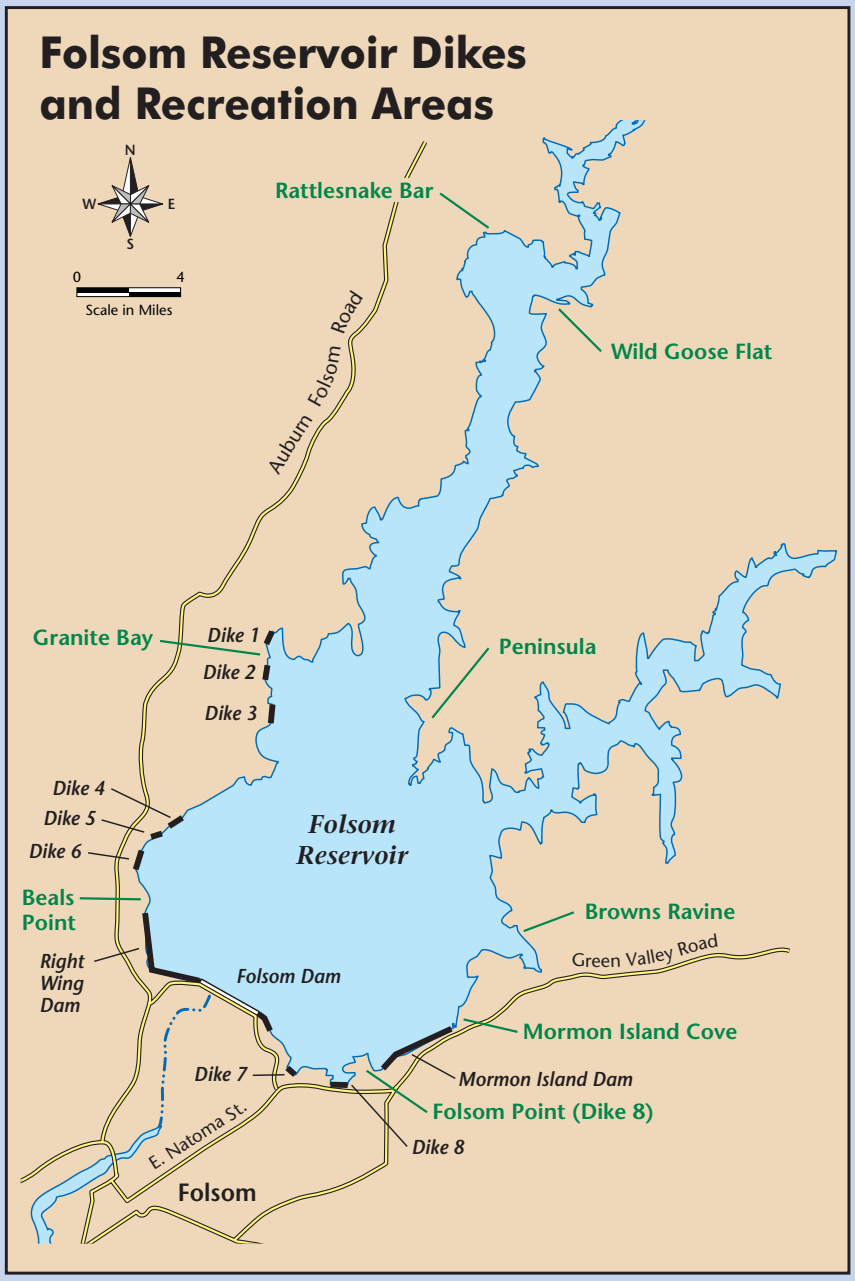
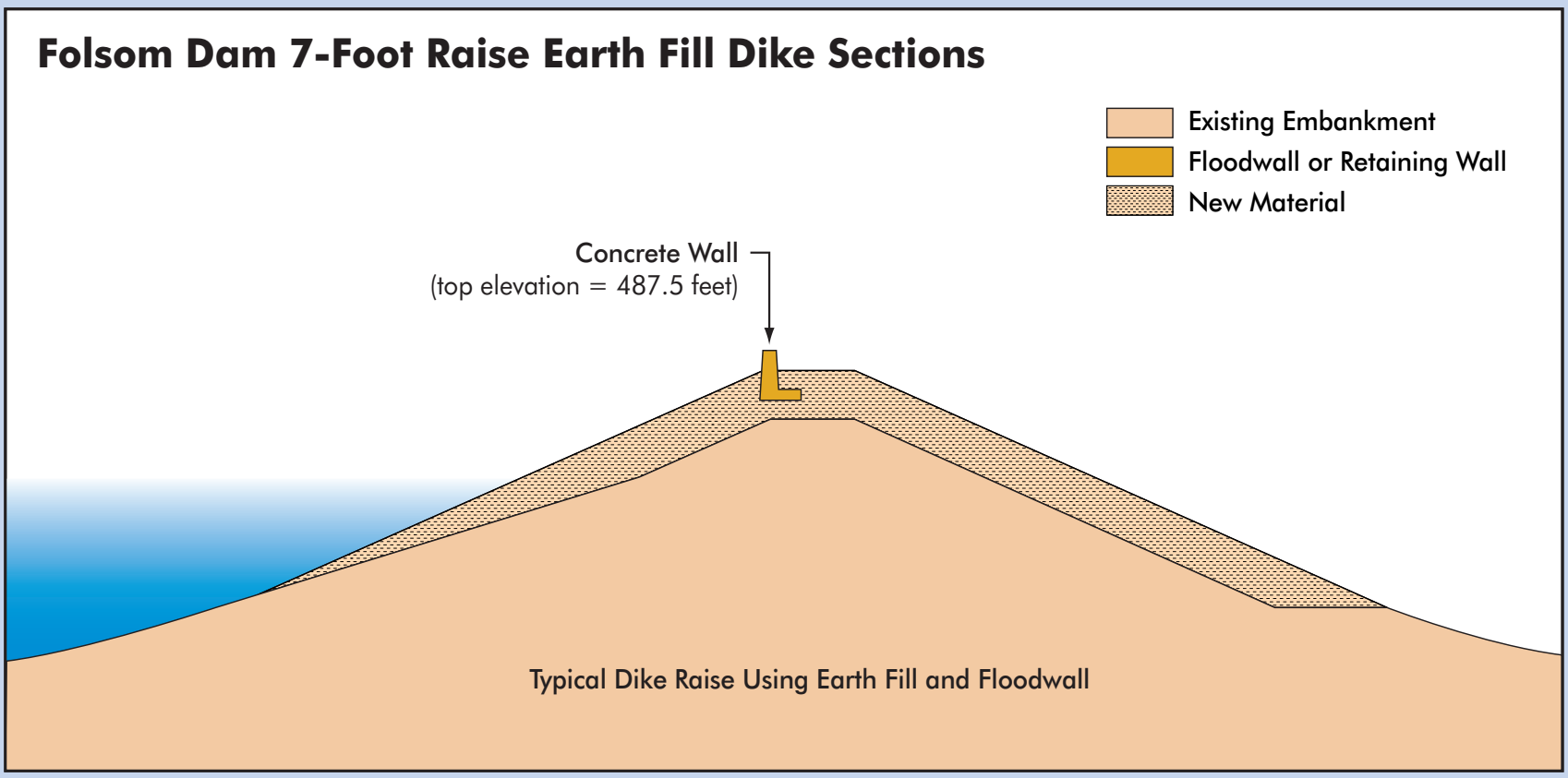
Sacramento Area Flood Control Agency



Project Description

Under the Folsom Dam Raise Plan, Folsom Dam and Folsom Reservoir dikes would be raised to create additional reservoir storage space to be used exclusively for flood control.

Improvements would be designed so that they could be constructed and operated without affecting ongoing water supply, hydropower, and recreation uses. Additional improvements include a temporary detour bridge across the American River, downstream of Folsom Dam, to minimize traffic impacts.



U.S. Army Corps of Engineers

Folsom Dam Raise Plan

Dam Raise Alternatives

Different dam raise alternatives (raises of up to 12 feet) were included in the evaluation of the Folsom Dam Raise Plan.

The plan would maintain the current Folsom Dam design flood control release of 115,000 cfs and the emergency release of 160,000 cfs.

Alternative	Expected Annual Probability of Exceedance *(1-in-x chance of flooding)*	Total First Cost	Non-Federal Cost Share
2	189	$176 million	$61 million
3	213	$179 million	$62 million
4	233	$315 million	$197 million

Plan Elements

Alternative 2:
3.5-Foot Dam Raise/478-Foot Flood Pool Elevation

Features:
- Replace Existing Spillway Gates
- Modify Spillway and Bridge Piers
- Replace Spillway Bridge
- Raise Concrete Dam
- Lower Spillway 6 Feet
- Construct a Concrete Wall on Dams and Dikes
- Modify Elevator Tower
- Construct Temporary Detour Bridge
- Acquire Flood Easements
- Widen L. L. Anderson Dam Spillway

Cost-Benefits:
- Annual Costs Allocable to Flood Control are $5.1 million
- Annual Benefits are $12.2 million*
- Net Benefits are $7.1 million

Performance: This raise would remedy Folsom Dam's existing dam safety deficiency and would reduce the probability of flooding in Sacramento from a 1-in-164 chance to a 1-in-189 chance in any year (with moderate advanced release).

Alternative 3:
7-Foot Dam Raise/482-Foot Flood Pool Elevation

Features: The plan components for this alternative are essentially identical to those of the 3.5-foot raise with the exception that the concrete section would be raised by an additional 3.5 feet and the wing dams, dikes, and Mormon Island Dam embankments would be raised using fill material. The spillway will not be lowered.

Cost-Benefits:
- Annual Costs Allocable to Flood Control are $6.6 million
- Annual Benefits are $20.5 million*
- Net Benefits are $13.9 million

Performance: This raise would remedy Folsom Dam's existing dam safety deficiency and would reduce the probability of flooding in Sacramento from a 1-in-164 chance to a 1-in-213 chance in any year (with moderate advanced release).

Alternative 4:
12-Foot Dam Raise/487-Foot Flood Pool Elevation

Features: The plan components for this alternative are essentially identical to those of the 7-foot raise with the exception that the concrete section would be raised by an additional 5 feet and the wing dams, dikes, and Mormon Island Dam embankments would be raised using fill material. To satisfy stability criteria for flood pool elevations in excess of approximately 482 feet, foundation anchors and a buttress would be included.

Cost-Benefits:
- Annual Costs Allocable to Flood Control are $16.2 million
- Annual Benefits are $27.5 million*
- Net Benefits are $11.3 million

Performance: This raise would remedy Folsom Dam's existing dam safety deficiency and would reduce the probability of flooding in Sacramento from a 1-in-164 chance to a 1-in-233 chance in any year (with moderate advanced release).

* *Includes (a) flood damage reduction and (b) Folsom modification project surcharge cost savings.*

Potential Impacts

The environmental impacts associated with the Folsom Dam Raise Plan have been fully evaluated. These impacts could include:

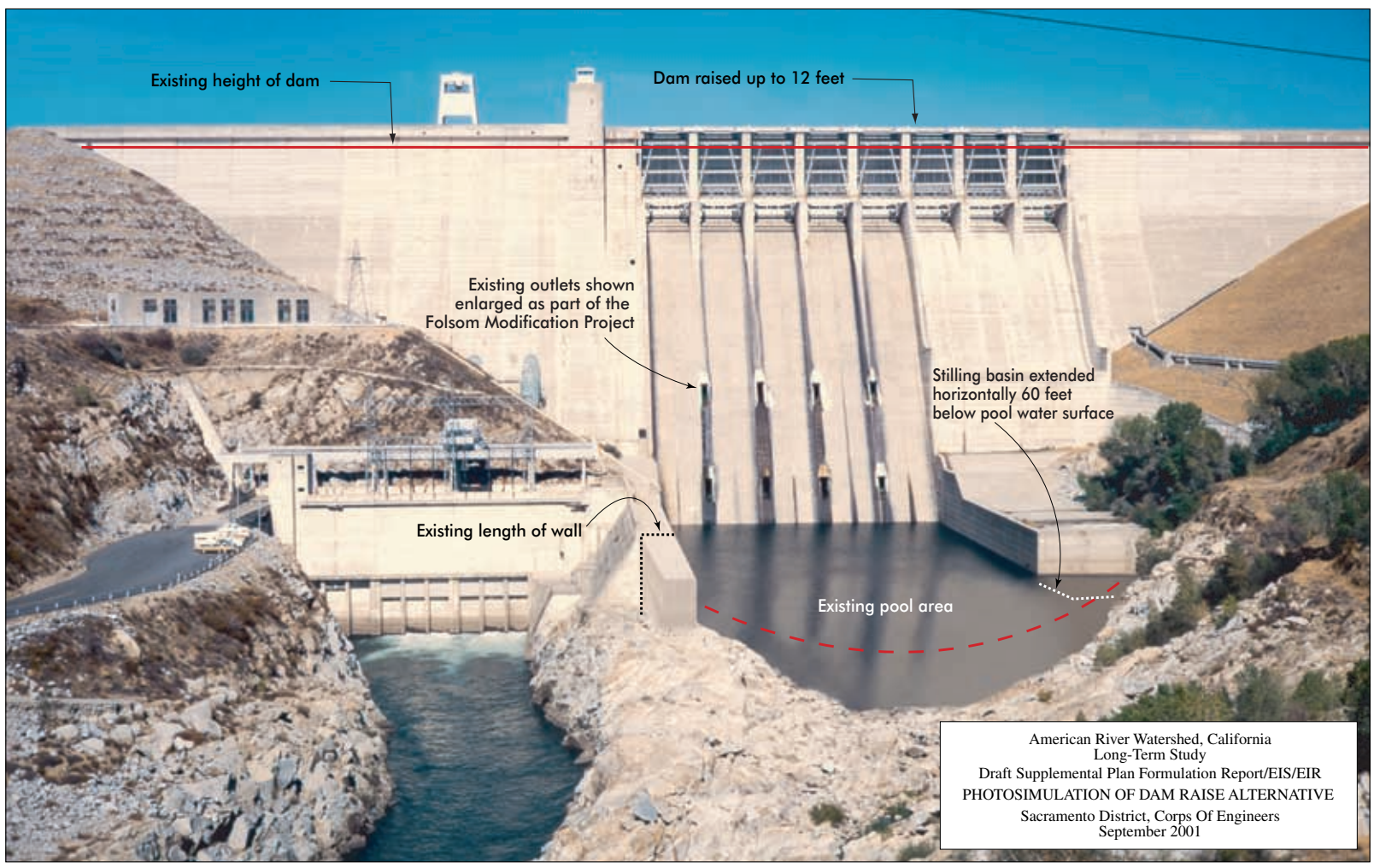
Construction-Related Impacts
- Vegetation
- Air quality
- Noise
- Special-status species
- Wildlife
- Traffic/circulation
- Recreation

Operation-Related Impacts
- Land use

Conclusions

- Each of these alternatives corrects the existing dam safety deficiency of Folsom Dam.
- There is a Federal interest for all dam raise plans.
- The most cost-effective plan is Alternative 3, the 7-foot dam raise with 482-foot flood pool elevation.

State of California
The Reclamation Board



Note: Date of photograph is 1972. Visual changes to dam since then are not shown.

Water Surface Elevations at Folsom Reservoir Under No Action (with Authorized Projects) and Folsom Dam Raise Alternatives